

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
690 Walnut Ave.St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-018757**Date Inspected:** 11-Dec-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 1900**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 700**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See Below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG**Summary of Items Observed:**

CWI Inspector: Mr. Bao Qian

On this date CALTRANS OSM Quality Assurance (QA) Inspector, Mr. Paul Dawson, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai China, for the purpose of monitoring welding and fabrication.

OBG Bay 14

This QA Inspector observed ZPMC welder Mr. Dan Deyin, stencil 044795 used flux cored welding procedure specification WPS-B-T-2233-ESAB to make OBG segment 13AE weld SEG3007B-126. This QA Inspector observed ZPMC QC Inspector ZPMC QC Mr. Zhong Guo Hui has recorded a welding current of 259 amps, 26.1 volts and a travel speed of 140 mm per minute. This QA Inspector measured a welding current of approximately 250 amps and Mr. Dan Deyin appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Zhang Quin Quan, stencil 044774 used flux cored welding procedure WPS-B-T-2233-ESAB to make OBG segment 13AE weld SEG3007P-041. This QA Inspector observed ZPMC QC has recorded a welding current of 249 amps, 25.8 volts and a travel speed of 136mm per minute. This QA Inspector measured a welding current of approximately 240 amps, 24 volts, a travel speed of 200 mm per minute and that Mr. Zhang Quin Quan appeared to be certified to make these welds. Items observed on this date appeared to generally comply with applicable contract documents.

WELDING INSPECTION REPORT

(Continued Page 2 of 3)

This QA Inspector observed ZPMC welder Mr. Ye Bing stencil 066733 used flux cored welding procedure WPS-B-T-2232-ESAB to make OBG segment 13AE weld SEG3007Y-353. This QA Inspector observed ZPMC QC has recorded a welding current of 310 amps, 25.9 volts and a travel speed of 325mm per minute. This QA Inspector measured a welding current of approximately 300 amps, 26.5 volts, a travel speed of 250 mm per minute and that Mr. Ye Bing appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Yuan Wensong, stencil 055491 used flux cored welding procedure WPS-B-T-2232-ESAB to make OBG segment 13AE weld SEG3007AZ-037. This QA Inspector observed ZPMC QC has recorded a welding current of 289 amps, 26.1 volts and a travel speed of 140mm per minute. This QA Inspector measured a welding current of approximately 300 amps, 29 volts, a travel speed of 150 mm per minute and that Mr. Yuan Wensong appeared to be certified to make these welds. This QA Inspector observed that the maximum welding voltage listed in the welding procedure specification is 26.6 volts and that Mr. Yuan Wensong had a welding voltage that was approximately 2.4 volts above the maximum limit. This QA Inspector showed ZPMC QC Inspector Mr. Zhong Guo Hui the welding procedure specification and he agreed the welding voltage was too high. Mr. Yuan Wensong adjusted the welding machine voltage to approximately 26 volts. Following adjustment of the welding machine, items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Han Lin stencil 062782 used flux cored welding procedure WPS-B-T-2232-ESAB to make OBG segment 13AE weld SEG3007AX-028. This QA Inspector observed a welding current of approximately 330 amps, 26.5 volts and a travel speed of 150mm per minute. This QA Inspector observed that the maximum welding current listed in the welding procedure specification is 320 amps and that Mr. Han Lin had a welding current that was approximately 10 amps above this maximum limit. This QA Inspector showed ZPMC QC Inspector Mr. Zhong Guo Hui the welding current meter and the welding procedure specification and he agreed the welding current was too high. Mr. Bao Qian adjusted this welding machine to a welding current of approximately 300 amps. This QA Inspector observed Mr. Han Lin appeared to be certified to make this weld. Following adjustment of the welding machine current, items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Liu Kaige, stencil 044830 used flux cored welding procedure specification WPS-345-FCAW-2G(2F)-ESAB-repair to make OBG segment 13BE weld repair DP3091-001-030. This work is being performed to resolve ultrasonic rejections as directed by critical weld repair B-CWR-2398. ABF CWI Mr. Bao Qian showed this QA Inspector that the top edge of the weld repair had a minimum base material temperature of 160 degrees Celsius. This QA Inspector applied a 160 degrees Celsius temperature indicating crayon to the base material near the lower surface of the weld and the 160 degrees Celsius temperature indicating crayon did not melt, which indicates the base material is less than 160 degrees Celsius. CWI Mr. Bao Qian informed this QA Inspector that that a few minutes earlier when welding was taken place, he had verified the base material was above 160 degrees Celsius. Mr. Bao Qian informed this QA Inspector that the welder has taken a break and that prior to any additional welding ZPMC will install an additional heater to the base material which was below 160 degrees Celsius. After the base material had been preheated to a minimum of 160 degrees Celsius, this QA Inspector observed a welding current of approximately 310 amps, 26.0 volts, a welding travel speed of 250 mm per minute and Mr. Liu Kaige appeared to be certified to make this weld. Following additional

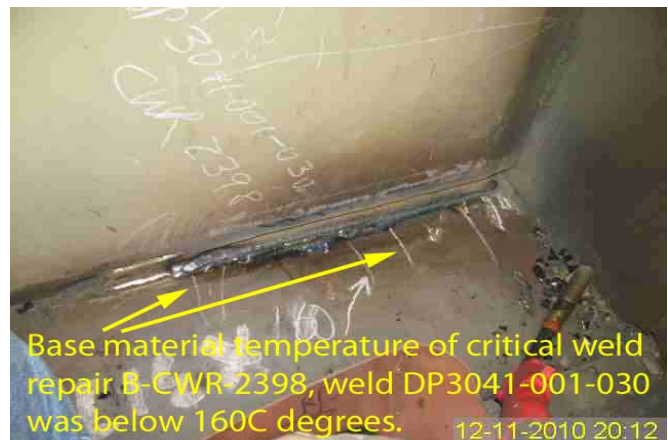
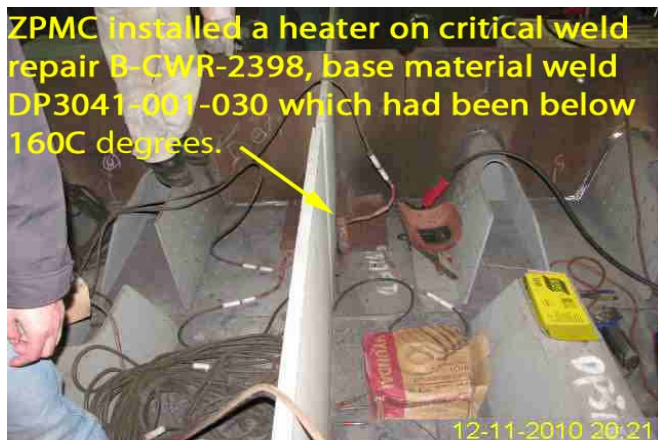
WELDING INSPECTION REPORT

(Continued Page 3 of 3)

preheating of the base material, items observed on this date appeared to generally comply with applicable contract documents. See the photographs below for additional information.

This QA Inspector observed ZPMC welder Mr. Hong Liang, stencil 200113 used shielded metal arc welding procedure specification WPS-345-SMAW-2G(2F)-Repair to make repairs of OBG segment 13AE weld SEG3007T-106. This weld had been ultrasonically rejected and was repaired in accordance with weld repair document B-WR17529. This QA Inspector observed ZPMC QC recorded a welding current of 169 amps, 25.1 volts and a travel speed of 118mm per minute. This QA Inspector observed Mr. Hong Liang appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Yang Yunfeng, stencil 215553 used shielded metal arc welding procedure WPS-345-SMAW-3G(3F)-Repair to make a weld repair of ultrasonic rejections to OBG segment 13AE weld SEG3007D-020. ZPMC QC Inspector Mr. Zhong Guo Hui presented this QA Inspector with weld repair document B-WR-18361 that documents a welding current of 153 amps, 24.7 volts and a travel speed of 110mm per minute. This QA Inspector observed Mr. Yang Yunfeng appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.



Summary of Conversations:

See Above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact James Devey +8615000026784, who represents the Office of Structural Materials for your project.

Inspected By:	Dawson,Paul
Reviewed By:	Carreon,Albert

Quality Assurance Inspector
QA Reviewer
